

J. S. MUNGER.

Casing Spears for Artesian Wells.

No. 153,720.

Patented Aug. 4, 1874.

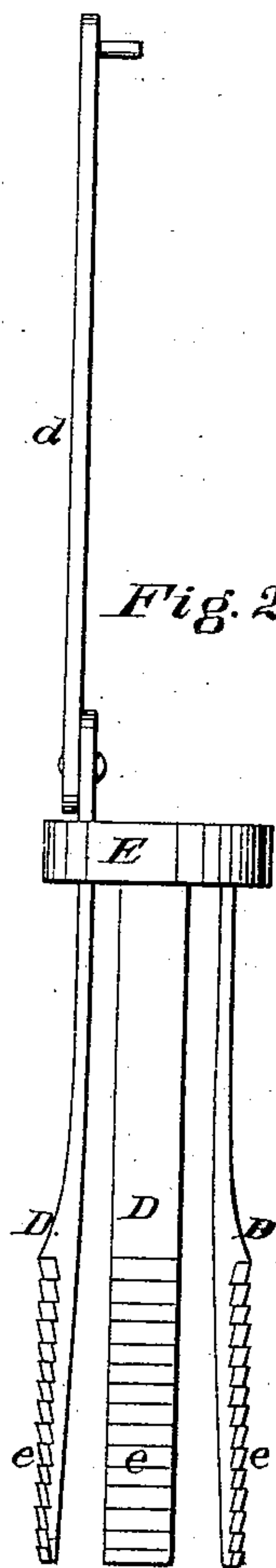
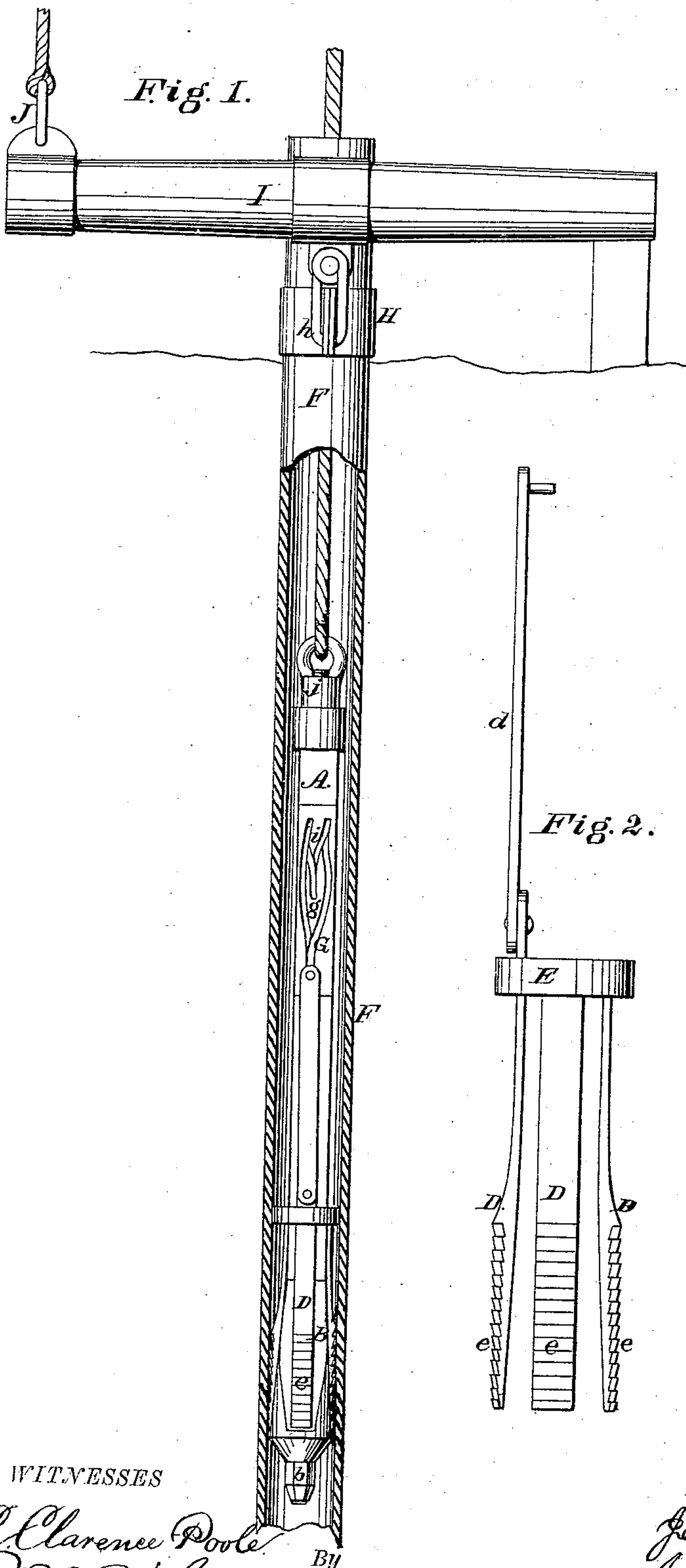


Fig. 3.

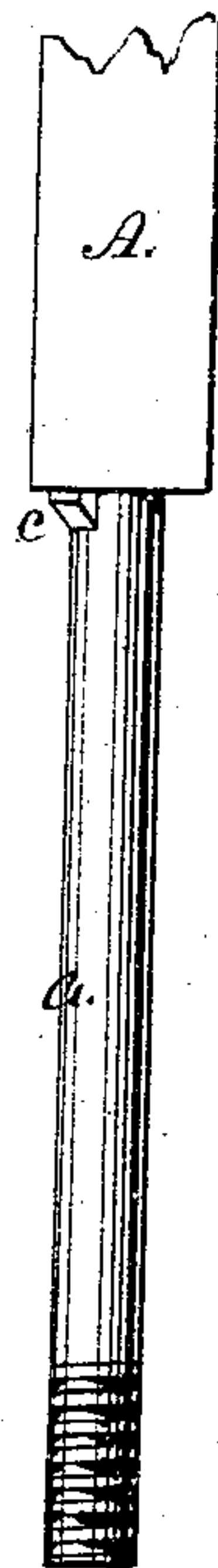


Fig. 4.

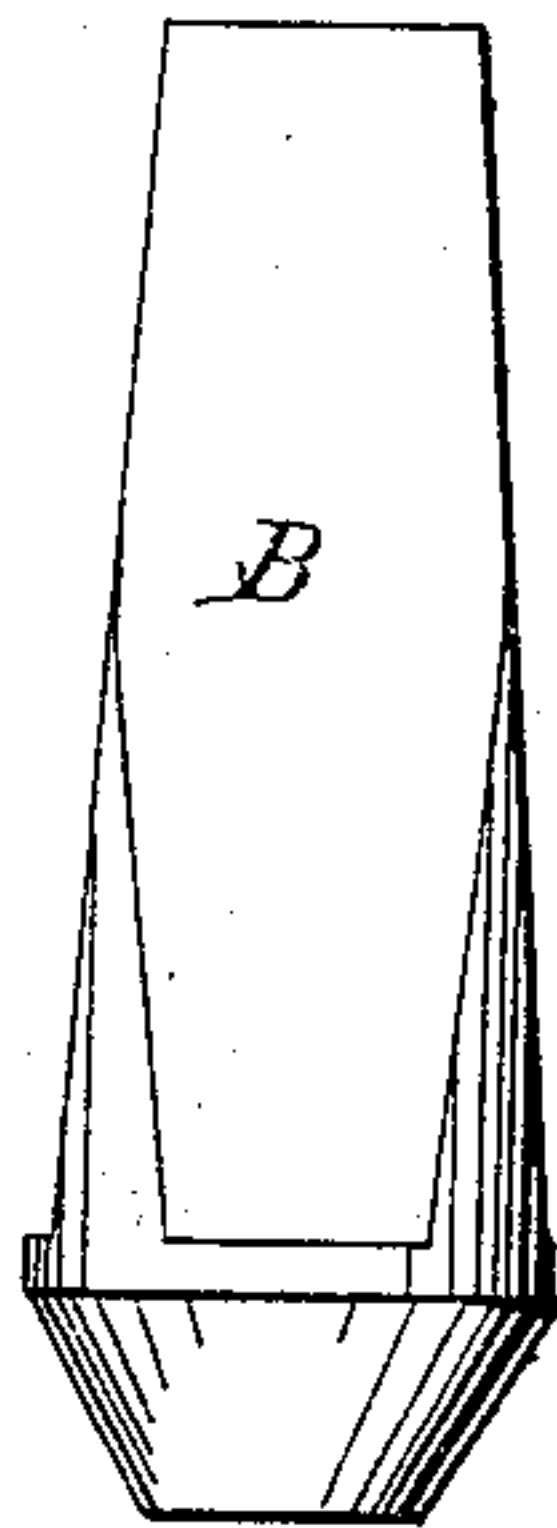


Fig. 5.



WITNESSES

C. Clarence Poole
R. D. Smith

By

INVENTOR

Jerome S. Munger
G. D. Woodruff
Attorney

UNITED STATES PATENT OFFICE.

JEROME S. MUNGER, OF BEAVER, PENNSYLVANIA.

IMPROVEMENT IN CASING-SPEARS FOR ARTESIAN WELLS.

Specification forming part of Letters Patent No. **153,720**, dated August 4, 1874; application filed June 13, 1874.

To all whom it may concern:

Be it known that I, JEROME S. MUNGER, of Beaver, in the county of Clarion and State of Pennsylvania, have invented certain new and useful Improvements in a Casing-Spear for Removing Casings from Artesian or Oil-Wells; and the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings making a part of this specification, in which—

Figure 1 represents a broken off section of a casing for oil or artesian wells, showing my improved casing-spear in the bottom of the tube in working position; also, the device for clamping and holding the casing and taking the strain from the top. Fig. 2 shows a detached view of the serrated wedge-plates for operating inside the casing. Fig. 3 shows a broken-off section of the lower end of the spear-bar, for holding the movable wedge-socket. Fig. 4 is a detached view of the movable wedge-socket. Fig. 5 is an octagonal screw-nut for holding the movable wedge-socket on the spear-bar.

My invention relates to certain improved devices for removing the casings from oil or artesian wells without mutilating or cutting the casing. My invention consists, first, in a detachable wedge or tapering socket fitted to a spindle on the lower end of the spear-bar, and secured by a nut; also, in a protecting collar which slides upon the spear-bar, the same being operated by a hook-spring bar, connecting with a double-acting reversible slotted plate inserted in the upper part of the spear-bar; second, in the device for clamping the casing and connecting it to a lever for holding the casing under tension while jarring up and loosening with the spear from below.

To enable others to make and use my improved casing-spear, I will describe it more fully, referring to the drawings and to the letters marked thereon.

The spear-bar A is made of square iron, of any required dimensions, the lower portion, *a*, being reduced so as to form a spindle, on which a tapering or wedge-shaped socket, B, is fitted and held firmly in its place by a screw-nut, *b*, there being a recess in the top of the socket, into which a projection, *c*, on the

shoulder of the bar A fits, to keep it from turning. A series of serrated wedge-shape spring-plates, D D, are secured at their upper ends to a protecting collar, E, that is fitted over and slides freely on the spear-bar A. The serrated portion *ee* extends down onto the wedge-shaped socket B, to expand them in the casing. The collar E is made sufficiently large to nearly fit the inside of the casing F, so as to prevent anything from falling beneath it to obstruct the operation of the serrated-wedge spring-plates D D. Above the collar E is pivoted, to one of the springs D, a hooked spring-bar, *d*, which works in a double-acting reversible slotted plate, G, inserted in one side of the upper portion of the spear-bar A. The plate G is formed with irregular connecting slots *g*, with offsets *ii* at certain points for guiding the hook-spring bar *d* while carrying and holding the serrated-wedge plates D D in and out of their working position. The upper end of the spear-bar A is provided with a screw, *j*, on which to attach a jar link between the spear-bar and cable used for operating the same. To the top of the casing F the hinge-clasp H is applied, to which, by the link *h*, the lever I is attached for holding the casing under tension while jarring up with the spear from the bottom. The lever I is worked by means of a cable, attached at one end to the link J and a fulcrum-block at the other.

The operation of my improved casing-spear is as follows: When the casing in an oil-well is to be removed the hook-spring bar *d* is in the central slot of the plate G, which holds the serrated plates D D in a position to let the spear-head and bar fall to the bottom or any desired point in the casing; then, by a sudden jar downward on the spear, the hook-bar *d* is relieved from the center slot, and by drawing the spear up changes its position to the seat below, by which means the serrated straps are expanded by the wedge-socket B, so as to impinge against the inner sides of the casing, and held to jar it loose, and materially aid in lifting it from the bottom. The socket B is removable for the purpose of substituting others to fit the various sizes of the casings, all of the other parts being universal.

I do not claim two or more serrated spring-

plates connected with a metal bar to be inserted into a pipe or tube and then expanded by a fixed tapering portion of the said bar, so as to impinge against the inner surface, as that is an old mechanical device used for many purposes; but

What I do claim as my invention is—

1. A casing-spear provided with a plate, G, having irregular slots *g* and offsets *i* for guiding the hook-spring bar *d* while carrying and holding the series of serrated spring-plate bars D D in contact with the casing F when

jarring, and liberating the same from the said casing when placing the spear in position for action, substantially as herein specified.

2. The combination of the removable socket B, spear-bar A, spring-bars D D, and the protecting-collar E, operating substantially in the manner as and for the purposes herein set forth.

JEROME S. MUNGER.

Witnesses:

C. CLARENCE POOLE,
J. B. WOODRUFF.